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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/782,186

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Rajiv Laroia

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05/02/2007

STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

EXAMINER

PEREZ, JULIO R

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

05/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/782,186	Applicant(s) LAROIA ET AL.	
	Examiner Julio R. Perez	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-30 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,11 and 13 is/are rejected.
- 7) ☒ Claim(s) 2,5-10,12 and 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not specifically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-4, 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil (US 20040086027A1) in view of Rinne et al. (US006259685B1).

Regarding claims 1, 11, Shattil discloses a communications method (and a base station) for use in a communications system including a base station and a plurality of wireless terminals, a different communications channel existing between each wireless terminal in said plurality of wireless terminals and said base station, the communications channel existing between each particular wireless terminal and the base station having a quality which is the channel quality for the particular wireless terminal, the method comprising: operating the base station to: maintain a set of channel condition information indicating the channel quality of each of said plurality of wireless terminals (par. 206, teaches base stations receiving assessments of channel quality from each subscriber); assign a communications channel segment to be used to communicate superimposed signals corresponding to at least two different wireless terminals as having channel conditions which differ by at least said pre-selected minimum amount (par., 206, Figure 13, teach selection of sub carriers for transmission to each user station

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for selecting the different modulation suitable for the particular transceiver based on the corresponding channel characteristics), but is silent on examining information to wireless terminals having channel conditions which differ from one another by at least a pre-selected minimum amount.

Rinne teaches channel allocation to allocate channels to a desired connection wherein the use of frequency spectrum is effectively is used based on separate amount of power between connections (col. 10, lines 9-38).

It would have been obvious to one skilled in the art at the time of the invention to modify Rinne, such that generating conditions indicating differences, to provide means to find low and high power terminals fro assigning them to same time slot so that to minimize interference.

Regarding claim 3, the combination of Shattil and Rinne operates the base station to repeat said steps of maintaining, examining and assigning (Shattil, pars. 206-207).

Regarding claims 4, 13, the combination of Shattil and Rinne discloses the base station to repeat said steps of maintaining and examining (Shattil, 206, maintains assessing the signals from users); and wherein when said examining step fails to at least two wireless terminals having channel conditions which differ by the pre-selected minimum amount having signals to be transmitted in a communications channel segment which is available to be assigned (Shattil, pars. 206-207).

Allowable Subject Matter

3. Claims 2,12,5-10, 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The cited prior art teaches adaptation to carrier synthesis and analysis for complex coding and decoding for extending to spatial processing to systems and employing multiple transceiver elements and transmission power control method for performing communication between base stations and mobile stations in uplink transmission of power measuring the uplink power transmission in accordance to the requirement thresholds at the base stations relying on signal to noise interference. On the other hand, the applicant's application teaches maintaining channel condition data to include channel to noise ratio therein at least two different wireless terminals include a minimum pre-selected amount of 3 dB of difference of channel conditions between the first and second wireless terminals and further wherein the first terminal comprises a better channel quality than the second wireless terminal wherein the base station transmits a first superimposed signal to the first and second wireless terminals in the assigned channel segment that includes a low power signal portion for the first terminal and a high power portion for the second wireless terminal and further less coding protection on the low power portion than the high power portion and decoding at the base station the first signal portion by subtracting said first signal portion from said second superimposed signal and then

decoding the second signal portion. These limitations, have not been disclosed, taught, or made obvious over the prior art of record.

4. Claims 17-22, 23-25, 26-30, are allowed. The following is an examiner's statement of reasons for allowance: The cited prior art teaches adaptation to carrier synthesis and analysis for complex coding and decoding for extending to spatial processing to systems and employing multiple transceiver elements and transmission power control method for performing communication between base stations and mobile stations in uplink transmission of power measuring the uplink power transmission in accordance to the requirement thresholds at the base stations relying on signal to noise interference. On the other hand, the applicant's application teaches operation of a first terminal with a first channel quality transmission of first portion of a superimposed communication signal to the base station and the operation of the a second wireless terminal with a second quality transmitting a second portion with superimposed communication signal the base station, wherein the signal qualities are different from each other by the pre-selected amount of 3-dB and dynamically combining in the air the first and second signal portions during transmission to the base station to form the superimposed communication signal, wherein the first signal portion being received with at a lower power level than the second signal portion.

Response to Arguments

5. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R. Perez whose telephone number is (571) 272-7846. The examiner can normally be reached on 10:30 - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William G. Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


4/29/07


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Julio R Perez
Examiner
Art Unit 2617